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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/721,383	11/26/2003	Kunihisa Obi	009523-0307056	6013

909 7590 02/01/2008

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EXAMINER	
MAY, ROBERT J	

ART UNIT	PAPER NUMBER
2885	

MAIL DATE	DELIVERY MODE
02/01/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/721,383	OBI, KUNIHISA	
	Examiner	Art Unit	
	Robert May	2885	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 November 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-4 and 6-8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-4 and 6-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claim 7 is objected to because "a polymer matrix formed of organic backbones" appears to be redundant because it is seen to repeat "a monomer or oligomer formed of organic backbones" and therefore this recitation does not further limit Claim 2.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kohara (6,883,938) in view of Arnold (5,498,784).

Kohara discloses in Figure 1, an illumination apparatus for an optical instrument (studio lighting systems Col 1, lines 5-7, which is read to include a projector as established as being an optical instrument on page one of the specification) comprising a illumination means 8 for outputting light, an optical element 14 positioned on the light path of the illuminating light outputted from the illumination means and also discloses that the optical element may contain organic and inorganic material (organic and inorganic fillers for enhancing heat resistance (Col 18, lines 50-67-Col 19, lines 1-16,

which can be used alone or in combinations of two or more types Col 19, lines 46-47). Kohara also discloses the optical element (including a organic component) having a glass temperature in excess of 150 degrees C (90-300 deg C, Col 15, lines 7-11).

Kohara fails to disclose the organic/inorganic components as being mixed in complex with each other where the composite material is made of a copolymerized structure, in which a monomer or an oligomer formed of organic backbones and a monomer or oligomer having inorganic element are copolymerized.

Arnold discloses (Col 2, lines 40-50) a transparent hybrid material which is copolymerized made of a copolymerized structure, in which a monomer x formed of organic backbones (as indicated by the benzene F3C C CF3 bonds) and a monomer y having inorganic element (Nitrogen atom is inorganic) are copolymerized as a desirable processing step for making optical elements having chemical homogeneity such as fiber optics (Col 1, lines 10-37).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the optical element with the copolymerized structure as taught by Arnold for making optical elements having chemical homogeneity.

Claims 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kohara (6,883,938) and Arnold (5,498,784) as applied to claim 2 above, and further in view of Hendrickson (5,106,533).

Kohara fails to disclose the composite structure having a curing agent that is cured by ultraviolet ray and in which inorganic nano-scale fine particles are dispersed in the polymer matrix formed of organic backbones.

Hendrickson discloses the composite structure having a curing agent that is cured by ultraviolet rays (polymerized by UV radiation (Col 13, lines 55-65) and in which inorganic nano-scale fine particles are dispersed in a matrix (dispersing utra-fine particles in a medium to invoke a characteristic in the polymer medium Abstract).

It would have been obvious to one of ordinary skill in the art at the time of the invention to disperse the nano-scale particles in the organic backbone medium of Kohara as modified by Arnold and having a UV curing agent. All the claimed elements in Kohara, Arnold and Hendrickson were known in the prior art and one skilled in the art could have combined the UV curing agent and method of mixing nano-scale particles as claimed with no change in their respective functions, and the combination would have yielded the predictable result to one of ordinary skill of invoking a characteristic in the polymer medium. See *KSR International Co. v. Teleflex Inc., 82 USPQ2d 1385 (2007).*

Claims 3-4 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kohara (6,883,938) in view of Itoi, Fukuzawa (JP 2002114945A) and Arnold (5,498,784).

Kohara fails to disclose the organic/inorganic components as being mixed in complex with each other.

Itoi discloses inorganic and organic components mixed in complex with each other (organic peroxide cross linking agent and an inorganic fine powder) to improve scuff resistance (Abstract- Purpose).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the optical element of Kohara with the organic and inorganic components mixed in complex with each other to improve scuff resistance as taught by Itoi.

Kohara fails to disclose the composite material containing one of the components represented by the formula: M1(OR4)n.

Fukuzawa discloses a composite material comprising an inorganic and an organic material comprising a material represented by an equivalent formula (M1(OR2)m) for providing a coating composition in order to form a light diffusion film that coats a surface.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the optical element of Kohara with the organic/inorganic composite material of Fukuzawa for forming a light diffusion film on the optical element of Kohara.

Kohara fails to disclose the organic/inorganic components as being mixed in complex with each other where the composite material is made of a copolymerized structure, in which a monomer or an oligomer formed of organic backbones and a monomer or oligomer having inorganic element are copolymerized.

Arnold discloses (Col 2, lines 40-50) a transparent hybrid material which is copolymerized made of a copolymerized structure, in which a monomer x formed of organic backbones (as indicated by the benzene F3C C CF3 bonds) and a monomer y having inorganic element (Nitrogen atom is inorganic) are copolymerized as a desireable processing step for making optical elements having chemical homogeneity such as fiber optics (Col 1, lines 10-37).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the optical element with the copolymerized structure as taught by Arnold for making optical elements having chemical homogeneity.

Regarding Claim 4, Kohara also discloses the optical element (including a organic component) having a glass temperature in excess of 150 degrees C (90-300 deg C, Col 15, lines 7-11).

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kohara and Arnold (5,498,784) as applied to claim 2 above, and further in view of Fujimoto.

Kohara fails to disclose the illumination system as being used for a microscope, however Fujimoto discloses an illumination system being used for a microscope (abstract) for illuminating the viewing field.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the illumination apparatus of Kohara for a microscope for illuminating the viewing field.

Response to Arguments

Applicant's arguments with respect to claims 2 and 3 have been considered but are moot in view of the new ground of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert May whose telephone number is (571) 272-5919. The examiner can normally be reached on Mondays through Fridays 9am-12pm & 1-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jong-Suk (James) Lee can be reached on (571) 272-7044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RM
1/22/08

JONG-SUK (JAMES) LEE
SUPERVISORY PATENT EXAMINER